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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,562	02/26/2002	Srikanth Gummadi	TI-33211AA	1260
23494 7590 07/05/2007 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			EXAMINER CORRIELUS, JEAN B	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 07/05/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com
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Office Action Summary

Application No.

10/085,562

Applicant(s)

GUMMADI ET AL.

Examiner

Jean B Corielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/8/07 has been entered.

Double Patenting

2. In view of the cancellation of claims 1-4 in copending Application No. 09/996,197, the double patenting rejection has been withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327.

As per claim 1, applicant background of the invention and admitted prior art figs. 1-6 disclose a method and apparatus (fig. 6) comprising receiving the stream of digital sample values fig. 2; correlating a digital sample value with a plurality of received digital

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sample values 610 to generate a corresponding plurality of correlation results 615; calculating a correlation value (output of adder 620) from corresponding plurality of correlation results 615 using adder 620; comparing the correlation value against a threshold, and determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2. However, the admitted prior art figure 6 does not explicitly teach "a received digital value" is correlated with the plurality of other received digital sample values. In the same field of endeavor, Radi teaches the step of correlating in correlator 504 "a received digital value" output by 512 a plurality of other received digital sample values output of buffer 502. In addition, Radi further teaches that the "received digital value and the "other digital values" are part of the same received signal. See col. 9, lines 50-65 and col. 6, table 1. Given that fact, it would have been obvious to one skill in the art to modify applicant's admitted prior art figure 6 in the manner taught by Radi so as to improve system configuration and/or performance.

As per claim 2, the digital sample value is a recently received digital sample value see page 14, lines 13-15.

As per claim 3, it is well known in the art in order to generate digital samples it is necessary to periodically sampling the communications channel. Given that fact, it would have been obvious to one skill in the art to configure applicant's background of the invention in such a way to sample the communication channel in order to recover the original signal.

As per claim 4, it would have been obvious to one skill in the art to receive a recently sampled value as the digital sample value so as to satisfy processing requirements of the system.

As per claim 5, it would have been obvious to one skill in the art to correlate a pair of received digital samples with a plurality of pairs of other received digital samples and the reason to do so would have been the same as provided above in reference to claim 1.

As per claim 6, it would have been obvious to one skill in the art to correlate a group of received digital samples with a plurality of groups of other received digital samples and the reason to do so would have been the same as provided above in reference to claim 1.

As per claim 7, it would have been obvious to one skill in the art to set the group to include a three -value correlation and the reason to do so would have been the same as provided above in reference to claim 1.

As per claim 8, the plurality of other received digital sample values are selected from the received stream based on their position in different periods of a periodic sequence see fig. 6.

5. Claims 11 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327 and further in view of Okanoue et al US Patent No. 6,738,439.

As per claim 11, Applicant background of the invention and admitted prior art figs. 1-6 disclose a method and apparatus (fig. 6) comprising receiving the stream of digital

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sample values fig. 2., correlating a digital sample value with a plurality of other received digital sample values 610 to generate a corresponding plurality of correlation results 615; calculating a correlation value (output of adder 620) from corresponding plurality of correlation results 615 using adder 620, comparing the correlation value against a threshold, and determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2. However, applicant's admitted prior art does not teach the further limitation of determining the presence of the "packet boundary" based on the comparison it only teaches determining the presence of the boundary based on the comparison see page 2, line 29-page 3, line 2 it also fails to explicitly teach "a single digital value" is correlated with a plurality of received digital sample values. In the same field of endeavor, Radi teaches the step of correlating in correlator 504 "a received digital value" output by 512 a plurality of other received digital sample values output of buffer 502. In addition, Radi further teaches that the "received digital value and the "other digital values" are part of the same received signal. See col. 9, lines 50-65 and col. 6, table 1. Given that fact, it would have been obvious to one skill in the art to modify applicant's admitted prior art figure 6 in the manner taught by Radi so as to improve system configuration and/or performance. In addition, Okanou et al teaches the further limitation of determining the presence of the packet boundary based on the comparison see col. 1, lines 32-38. Given that, it would have been obvious to one skill in the art to incorporate such a teaching in applicant's background of the invention and Radi so as to enhanced signal detection.

As per claim 15, the received stream is stored in memory see page 13, lines 13-15, and the plurality of received digital sample values', generating a one value for each time the digital sample value matches with one of the digital sample values in the plurality', and generating a zero value for each time the digital sample value does not match with one of the digital sample values in the plurality see page 14, lines 10-13.

As per claim 16, the calculating step comprises 2 summing up a correlation result resulting from each correlation of the received digital sample value with the plurality of previously received other digital sample values see adder 620.

As per claim 17, applicant's background of the invention further teaches that the correlating and calculating steps are performed more than once and an average correlation value is determined and compared against a threshold. See page 15, lines 9-11.

As per claim 18, it would have been obvious to one skill in the art to perform packet detection after each digital sample value is received so as to satisfy processing requirements of the system.

As per claim 19, it would have been obvious to one skill in the art to perform packet detection after a specified number of digital sample values is received and the reason to do so would have been the same as provided above in reference to claim 18.

6. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art figs. 1-6 in view of Radi US Patent No. 6,594,327 and further in view

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of Okanou et al US Patent No. 6,738,439 and further in view of Lee US Patent Application Publication No. US2001/0005378A1.

As per claim 12, as applied to claim 11 above, Applicant's admitted prior art Radi and Okanou teach every feature of the claimed invention but do not explicitly teach the further limitation of "wherein the packet is transmitted over a previously idle communication channel". In the same field of endeavor, Lee teaches the transmission of a packet over a previously idle communication channel see paragraph 0012. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in applicant's admitted prior art Radi and Okanou in order to avoid data lost.

As per claim 13, it is well known in the art in order to generate digital samples it is necessary to periodically sampling the communications channel. Given that fact, it would have been obvious to one skill in the art to configure applicant's background of the invention in such a way to sample the communication channel in order to recover the original signal.

As per claim 14, it would have been obvious that the digital sample of the idle communications channel would have been different in value from a digital sample of the communication channel transmitting the packets as the idle communication channel includes no real data as opposed to the communication channel that includes real data.

Response to Arguments

7. Applicant's arguments filed 3/8/07 have been fully considered but they are not persuasive. Applicant's comment at page 7-8 suggests that Radi does not teach that the

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"received digital value" and the "other digital values" are not part of the same received signal. However it is noted that col. 6, table 1, shows the structure of a super frame or extended super frame stored in memory 206 see col. 6, lines 1-14 in that, at col. 9, lines 55-56, Radi teaches that register 502 stores a values read from frame memory 206 it further teaches that **expanded bits** stored in memory 512 are part of a **current bit of frame set** and further at col. 9, lines 63-64 it teaches that, in one embodiment, a state machine **selects a bit** from the bits stored in memory 512 to perform signal correlation. In addition, note col. 10, line 52 to col. 11, line 7 that Radi further teaches that one or more sequence of a corresponding superframe worth of data are correlated with a looked up version of said corresponding superframe and that the looked for version of said framing bits is part of the superframe. Hence, the single bit or received digital value and the other received digital values are part of the same signal.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B. Cornelius
Primary Examiner
Art Unit 2611

3-24-07